

CLAIMS

1. A method for increasing a blade performance, comprising the steps of producing a blade in the form of a wing, and on a side of the blade that is opposite to an incoming air flow, carrying out the boundary layer suction through a system of slotted holes, characterized by: providing said blade with a thick airfoil profile, the air suction being carried out through system of slotted holes embodied along the blade and into cavities embodied under said holes along the latter and provided with a central longitudinal hollow body in each cavity, said body forming an annular channel in each cavity to generate a vortex-like flow by the incoming air flow in said channel; carrying out the air suction from the cavity and central bodies through branch channels; and discharging air from the branch channels outside of the blade, wherein the flowing-off of the air flow along the cavities and along the blade is limited within the cavities by mounting partitions and on an external surface of the blade – by mounting ribs.

2. A method for increasing a blade performance according to claim 1, characterized by suction of air out from the branch channels by means of a suction member, for example, a fan or an ejector.

3. A method for increasing a blade performance according to claim 1, characterized by blowing air into the vortex-like flow into the cavities.

4. A method for increasing a blade performance according to claim 1, characterized by controlling the air suction by mounting air flow control members at outlets of cavities and central bodies or at outlets of branch channels.

5. A method for increasing a blade performance, comprising the steps of producing a blade in the form of a wing, and on a side of the blade that is opposite to an incoming air flow, carrying out the boundary layer suction through a system of slotted holes, characterized by: providing said blade with a thick airfoil profile, the air suction being carried out through system of slotted holes embodied along the blade and into cavities embodied under said holes along the latter to generate a vortex-like flow by the incoming air flow in said cavities; carrying out the air suction from the cavities through branch channels; and discharging air from the branch channels outside of the blade, wherein the flowing-off of the air flow along the cavities and along the blade is limited within the cavities by mounting partitions and on an external surface of the blade – by mounting ribs.

6. A method for increasing a blade performance according to claim 5, characterized by suction of air out from the branch channels by means of a suction member, for example, a fan or an ejector.

7. A method for increasing a blade performance according to claim 5, characterized by

blowing air into the vortex-like flow in the cavities.

8. A method for increasing a blade performance according to claim 5, characterized by controlling the air suction by mounting air flow control members at outlets of cavities or at outlets of branch channels.